



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/696,965	10/27/2000	Naohisa Kamiyama	199153US2S	3176

22850 7590 01/16/2004

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

JUNG, WILLIAM C

ART UNIT PAPER NUMBER

3737

DATE MAILED: 01/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/696,965

Applicant(s)

KAMIYAMA, NAOHISA

Examiner

William Jung

Art Unit

3737

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5, 9-18, and 23 is/are allowed.
- 6) ☒ Claim(s) 6-8, 24 and 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Allowable Subject Matter

1. Claims 1-5, 9-18, and 23 are allowed.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 6 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Napolitano et al (US 6,193,663).

Napolitano et al anticipate all claimed features in claims 6 and 24. Napolitano et al disclose of an ultrasound system and apparatus where the parallel transmission and reception of ultrasound echo is processed with image processing unit to generate single frame of image from two distinct focal region, short and long distance regions (col. 4, lines 30-50; col. 9, lines 15-36). While Napolitano et al's system and apparatus do not disclose of contrast agent and its use, it would have been obvious on one having an ordinary skill in the art at the time the invention was made to apply Napolitano et al's teaching of sequential transmission to a subject laden with contrast agent because, the scanning sequence described in claims 6 and 24 is independent of contrast agents, therefore, the presence of contrast agents is inconsequential to the scanning process described above.

4. Claims 7, 8, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Starosta et al (US 5,617,863).

Art Unit: 3737

Starosta et al anticipate all claimed features in claims 7, 8, and 25. Starosta et al disclose of an ultrasound system and method where the sequential changes in transmission line direction is achieved with multiple transmission lines with direction of the transmission sets in a forward direction (odd numbered scan 1, 3, 5, ...) and the scanning within the set moves in reverse direction (col. 5, lines 19-59). The reception circuit is configured to receive the line data from the echo signal generated from the ultrasound transmission and image-processing unit configured to form ultrasound image from the received data. While Starosta et al's system and apparatus do not disclose of contrast agent and its use, it would have been obvious on one having an ordinary skill in the art at the time the invention was made to apply Starosta et al's teaching of sequential transmission to a subject laden with contrast agent because, the scanning sequence described in claims 6 and 24 is independent of contrast agents, therefore, the presence of contrast agents is inconsequential to the scanning process described above.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Roundhill et al (US 5,617,863), ***Thomenius et al*** (6,066,099), ***Seo*** (Re. 35,371), and ***Seo*** (US 4,993,417)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William Jung whose telephone number is 703-605-4364. The examiner can normally be reached on Mon-Fri 8:30 AM to 5 PM.


Art Unit: 3737

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dennis Ruhl can be reached on 703-308-2262. The fax phone number for the organization where this application or proceeding is assigned is 703-308-0758.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1148.

WCS

December 12, 2003


DENNIS W. RUHL
SUPERVISORY PATENT EXAMINER